

Dear all,

so let us quickly summarize what we discussed yesterday plus some more comments/questions:

clarifications:

- print correction factors in 2 significant digits
- print also the table of D_m and D_a
- print $\langle 1/p_T \rangle$ for data, MC and expectation
- can the binning be done such that $\eta=0.9$ is at the bin boundary (e.g. 16 bins in η)
- could you specify precisely by which resolution distribution exactly is the smearing done
- specify exact definition of $M_{\mu\mu}$ used for cross-checks and derivation of global scale (sometimes average is used and sometimes Breit-Wigner - can this be unified, show an example of Breit-Wigner fit)

systematics:

- how does the result depends on binning
- how does the result depend on the resolution (vary resolution smearing within uncertainty, use MuSclFit resolution instead of SIDRA)
- how does the result depend on p_T spectra matching (difference between results with and without matching)
- check systematics with different PDFs, variations in ISR, FSR etc. (repeat systematics studies done by SIDRA/MuSclFit described in MUO-10-004, maybe Juan/Roberto can help here)

to be understood:

- understand why MuSclFit and SIDRA seem to give opposite Z mass bias for 2011 data (was checked with 2010 to be the same); maybe try to plot the fitted peak mass instead of average.

preliminary guidelines for MuSclFit/SIDRA activity by priority:

- 1) finish the process of MuSclFit correction studies for 2011 data with 42X including extension up to $\eta_{\text{lab}} < 2.4$ and cross-check with Rochester
- 2) check how the biases and resolutions are similar with PF momentum and TuneP momentum assignment (would be interesting also to do this with Rochester method)
- 3) repeat the study for 44X mainly as a preparation for 2012 but also to compare with generalized endpoint results
- 4) apply corrections from 44X to 2012 data (52X) and adjust well in time so that corrections are available for summer conferences

Please add more questions/ideas or comment.

Thank you all for your interest and revival of the muon momentum scale/resolution studies. We have scheduled another talk by Arie/Jiyeon next Monday, it would be nice to have some of "clarifications" above covered depending on resources, of course. Please, keep us informed about your progress.